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When spirits speak: absorption, attribution, and identity among spiritualists who report "clairaudient" voice experiences

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ABSTRACT

For mental health researchers and others committed to a bio-cultural understanding of religious experience, there is a need for empirical studies capable of shedding light on the interplay between beliefs, personalities, and the occurrence of anomalous sensory experiences. Absorption, a trait linked to one's tendency to become immersed in experience or thought, may be key for understanding that relationship. Spiritualist mediums ($N = 65$) completed an online questionnaire assessing the timing, nature, and frequency of their auditory (clairaudient) spiritual communications – including scales measuring paranormal beliefs, absorption, hallucination-proneness, and aspects of identity. These measures were compared to a general population group ($N = 143$), with results showing higher levels of auditory hallucination-proneness and absorption among the Spiritualists as well as correlations between spiritual beliefs and absorption, but not spiritual beliefs and hallucination-proneness, for the general population. Findings are discussed in relation to attribution models of religious experience and the complexity of "absorption" as a construct.

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Introduction

In recent years, religious and spiritual experiences (RSEs) have been taken up by mental health researchers as a means of comparing "non-clinical" hallucinatory experiences with those of clinical samples (e.g., Jackson & Fulford, 1997; Johns et al., 2014; Luhrmann, 2017; McGrath et al., 2015; Peters et al., 2016). For instance, a small number of studies have explored phenomena such as the clairaudience and clairvoyance (having an auditory or visual experience, attributed to an individual from the spirit world, in the absence of an external stimulus) reported by spiritual mediums as a form of non-pathologised auditory and visual hallucinations (Andrew et al., 2008; Cardeña et al., 2015; Powers, Kelley, et al., 2017; Roxburgh & Roe, 2014; Taylor & Murray, 2012). Yet, for both theorists of RSEs and those interested in pathological forms of anomalous experiences there is still a need to understand why some individuals

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report RSEs and others do not, just as there is a need to understand why some anomalous experiences result in distress and a mental health diagnosis when others do not.

One possibility has emerged from the study of hypnosis and personality psychology. Specifically, Luhrmann and colleagues have documented a large set of cases in which the trait of "absorption" appears to be associated with both the immersive hallucination-like nature, and high frequency of, anomalous perceptual experiences among members of religious communities (Luhrmann, 2012; Luhrmann et al., 2010). Perona-Garcelán et al. (2016) also found that this trait was associated with hallucinations. Luhrmann et al. (2010) propose that, in these cases, a predisposition to anomalous experiences combines with personal history and socio-cultural expectations and opportunities to engender the experiences themselves. To support this claim, however, studies must not only demonstrate that those who have these anomalous experiences do, in fact, have higher levels of absorption than those who do not, but also that absorption is associated with a propensity for such experiences when other relevant variables are considered. For example, previous studies investigating absorption and RSEs have not always assessed collinearity with paranormal beliefs or non-religious hallucinatory experiences, at times relying solely on within-group qualitative methods which have limited capacity to elucidate the interplay between wider culture and personal traits.

That said, contemporary theorists, like Proudfoot (1985) and Taves (2008, 2009, 2016), insist on such a bio-cultural approach to RSEs. These theories tend to emphasise attribution – the process of ascribing a religious or spiritual cause to an otherwise natural set of phenomena. In complementary fashion, recent empirical studies of RSEs also note the role of emotional motivations and personal expectations in theophanic and mystical experiences. Dein and colleagues, for example, conducted two studies of contemporary Christians in the UK which found that among believers who reported receiving auditory communications from God, the experiences themselves – including the verbal messages of the communications – were frequently reassuring and offered resolution to a dilemma faced by the experiencer (Dein & Cook, 2015; Dein & Littlewood, 2007). Furthermore, studies of historical first-person accounts of RSEs indicate that the reassurances and comforts conveyed by the supernatural communications often expressed collective rather than individual needs, resolving tensions between social expectations and personal identity by elevating the former (Powell, 2017; Taves, 2016).

Hallucinations researchers acknowledge that culture not only provides many of those expectations and the experiential content (that which is seen, heard, smelled, etc.) but also affects the nature, frequency, and meanings attributed to hallucinatory events (Larøi et al., 2014). Focusing primarily on auditory hallucinations, this scholarship highlights the "multiple pathways" that may lead from one's life setting to experiences of hallucinations, including the role of past trauma and the more general cognitive consequences of social learning (see, Andrew et al., 2008; Corlett et al., 2019; Luhrmann et al., 2019). For example, evidence shows that auditory hallucination-like experiences can be induced in non-treatment-seeking individuals through Pavlovian conditioning (Powers, Mathys, et al., 2017). Expecting or (even unconsciously) anticipating a perceptual experience seems to presage reporting a hallucinatory experience.

Analysing both auditory hallucinations and RSEs with the same theoretical lens may be justified in the light of phenomenological overlap and evidence showing similar scores between psychiatric patients and members of religious communities on measures of

positive symptoms like "hearing voices" (Andrew et al., 2008; Daalman et al., 2011; Loch et al., 2019). Yet significant differences appear in the literature as well. For instance, Dein and Littlewood (2007) noted that charismatic Christians were able to preserve a sense of agency, and experience high levels of comfort and affirmation, when receiving auditory communications from God, in contrast with clinical voice-hearers (Woods et al., 2015).

More recently, Spiritualism – a movement comprised of those who believe that the spirits of deceased individuals continue living beyond the physical death of the body and can communicate with mediums capable of conveying messages from the spirit world – has received attention as a useful point of comparison with clinical voice-hearers (Andrew et al., 2008; Powers, Kelley, et al., 2017; Roxburgh & Roe, 2014; Taylor & Murray, 2012). Unlike Dein and Littlewood's (2007) study, Andrew et al. (2008) found little phenomenological difference between clinical voice hearers and spiritual mediums who received auditory communications (clairaudience), although when compared with clinical voice hearers, spiritualist participants report much higher levels of control over their voices as well as lower levels of distress (Powers, Kelley, et al., 2017; Roxburgh & Roe, 2014; Taylor & Murray, 2012).

That spiritualists report less stress and a "decreased need for coping" has been attributed to a positive social context which validated, rather than stigmatised, their earliest voice hearing experiences (Powers, Kelley, et al., 2017). With that in mind, Powers et al. note that there is a need for future research to investigate whether spiritual voice hearers hold validating beliefs prior to their experiences or, perhaps, as a result of their experiences. In addition, it should be recognised that existing research relating clairaudience to clinical forms of voice hearing rather than to other forms of RSEs has done so with relatively small samples of spiritualist mediums ($n < 22$ in all cases), and has not yet established whether or not individual proneness to non-spiritual hallucinatory experiences (frequently referred to as "hallucination-proneness", e.g., Aleman & Larøi, 2008) plays a role in the onset or frequency of clairaudience among mediums.

Evidence does suggest that, at least among those with childhood trauma, paranormal beliefs follow paranormal experiences (Lawrence et al., 1995). The basic observation that experience may commonly precede the holding of validating beliefs has potential both to inform more general models of RSEs and to illuminate the different experiential trajectories represented by clinical and non-clinical voice-hearers. To achieve such ends, however, would require more scrutiny of the individual circumstances engendering unusual sensory experiences in the first place.

"Absorption", conceptualised as a trait capturing an individual's propensity to be fully attentive to, and immersed in, external and internal stimuli such as movies, music, and mental imagery (Tellegen & Atkinson, 1974), may provide a way forward. Overlapping conceptually with other instruments, such as the Dissociative Experiences Scale (Bernstein & Putnam, 1986), the Tellegen Absorption Scale (TAS) was originally developed as a tool for assessing hypnotisability and has now been utilised in several studies demonstrating a correlation between absorption and hallucination-proneness (Glicksohn & Barrett, 2003; Perona-Garcelán et al., 2016; Rosen et al., 2017). In fact, Maij and van Elk (2018) found that absorption seems to have an important link with expectation, as non-clinical participants in their placebo brain stimulation study were not only more likely to report extraordinary sensory experiences when they were primed to expect such experiences, but their scores on the TAS also predicted both the frequency and intensity of their extraordinary experiences.

Cardeña et al. (2015) conducted a study of Danish spiritualists which compared mediums to the general population, measuring absorption alongside fantasy proneness, dissociation, trauma, psychological distress, and several other variables. Their findings showed no correlation between paranormal beliefs and psychopathology (in fact, spiritualists had lower levels of phobic anxiety than controls), and the spiritualist participants only scored slightly higher on the TAS than their control group counterparts. One of their important conclusions was that many individuals develop an interest in the paranormal as a post hoc means of explaining otherwise anomalous somatic experiences.

This still leaves open questions regarding whether or not absorption represents a predisposition to RSEs. Lifshitz et al. (2019) summarise the findings of Luhrmann and others who have observed a link between absorption and several psychological constructs/traits and unusual experiences – including mystical experiences with psychedelics, dissociation, fantasy proneness, and artistic creativity. Luhrmann (2012), for example, had evangelical Christians complete the TAS and also separately describe their experiences of hearing God's voice, finding that those with more frequent and more vivid experiences tended to have the highest absorption scores (Luhrmann et al., 2010). However, more research is needed to interrogate that relationship among various spiritual and non-spiritual samples, as Cardeña et al. (2015) have conducted the only study to date which both administered the TAS to spiritualist mediums and included a control group.

We therefore set out to investigate links between absorption, hallucination-proneness, and spiritual beliefs in the general population, whether Spiritualists reporting clairaudient experiences differed from the general population on absorption and/or hallucination-proneness, as well as investigating variables such as age of onset (and whether this was before or after encountering Spiritualism as a movement). We also explored whether those reporting more frequent clairaudient experiences would score higher on absorption, and investigated whether, as outlined by Powell (2017) and Taves (2016), social and relational aspects of identity receive increased importance for those reporting RSEs. With this in mind, we designed an online questionnaire aimed at spiritualist mediums who reported clairaudient experiences, comparing this spiritualist group to a non-spiritualist general population group. Spiritualist participants answered questions about the frequency, location, and context of their previous clairaudient and other RSEs. Both groups were compared on measures of absorption, hallucination-proneness, paranormal beliefs, and aspects of identity. We hypothesised that: (1) Absorption and hallucination-proneness would be associated with spiritual beliefs in the general population group, (2) Spiritualists would score higher on absorption and hallucination proneness than the general population group, (3) On average, Spiritualists would exhibit a tendency toward attribution by reporting RSEs occurring at an earlier age than when they reported encountering Spiritualism as a movement, and (4) Spiritualists would score higher than the general population group on measures of social and relational identity.

Materials and methods

Participants

Spiritualist participants reporting clairaudient experiences ($n = 66$, henceforth referred to simply as the *spiritualist group*) were recruited through contact with spiritualist communities

(e.g., national newsletters, spiritualist churches) and through adverts on social media. The non-spiritualist control group ($n = 188$, henceforth referred to as the *general population* group) was recruited through social media and using Prolific.ac, an online study recruitment tool. Participants recruited through Prolific were rewarded with a small payment (£.85). Prolific has previously been shown to provide high quality data (Peer et al., 2017), and studies recruiting through Prolific assessing hallucinatory experiences have shown negligible differences with face-to-face data collection (Moseley et al., 2020).

All participants were required to be English-speaking, and aged 18–75. In the spiritualist group, the only criteria for participation was to report "clairaudient" spiritual experiences, assessed using a question at the start of participation (*Have you ever had an experience you would describe as "clairaudient"?*). Participants that answered "no" to this question were removed from the dataset ($n = 1$), leaving 65 spiritualist participants in the final dataset. Participants that identified as a "spiritualist" or as a "voice-hearer" ($n = 42$, presumably because the study was in part advertised from the "Hearing the Voice" research project), or who failed an attention check ($n = 2$) were removed from the control group, leaving 143 participants in the non-spiritualist control group.

The majority of participants were from the UK (84.4%), with the remainder from North America, Europe, or Australasia. Other demographic information of the sample is presented in Table 4.

Measures

Online platform

Participants accessed a series of questionnaires on an online platform, completed in the order described below. Participants could withdraw at any point by closing their internet browser, in which case their data was discarded and not included in any analysis.

Assessment of spiritual experiences

Participants in the spiritualist group completed a bespoke questionnaire regarding "clairaudient", "clairvoyant", and "clairsentient" experiences. Specifically, after being given brief definitions of these three terms, they were asked whether they had ever experienced each modality, how often it occurred, the last time it occurred, whether the experiences occurred during work as a medium, and where the experience seemed to originate from (e.g., inside or outside the head). Participants were also asked a series of open-ended questions about their experiences, with responses typed into free-text boxes, including questions regarding age of onset of spiritual experiences, how they were introduced to spiritualism, and regarding potential triggers for the experiences. See the supplementary materials for the full list of questions used.

Tellegen Absorption Scale (TAS; Tellegen & Atkinson, 1974)

The TAS is a 34-item scale that aims to assess absorptive tendencies (e.g., being readily captured by entrancing stimuli, reporting vivid mental imagery, becoming immersed in one's own thoughts), e.g., *Sometimes I feel as if my mind could envelop the whole world*. Participants respond True or False to each item, and the total number of "True" responses is summed for a total score on the scale (0–34). The scale has previously shown high internal consistency ($\alpha = .93$) (Perona-Garcelán et al., 2012).

Revised Launay-Slade Hallucination Scale (LSHS-R; McCarthy-Jones & Fernyhough, 2011)

The LSHS-R is a 9-item scale that assesses tendency to experience auditory hallucinations (five items, e.g., *I hear people call my name and find that no-one has done so*) and visual hallucinations (four items, e.g., *I see shadows and shapes when nothing is there*). Participants indicate agreement with each question on a four-point Likert scale, from 1 (*Never*) to 4 (*Almost always*), with scores ranging from 5–20 for the auditory subscale, and 4–16 for the visual subscale. The scale has previously shown high internal reliability ($\alpha = .73$ and .78 for auditory and visual respectively) (McCarthy-Jones & Fernyhough, 2011).

Revised Paranormal Beliefs Scale (PBS-R; Tobacyk, 2004)

The PBS-R is a 26-item scale, consisting of seven subscales assessing beliefs in traditional religious beliefs (four items), psi (four items), witchcraft (four items), superstition (three items), extraordinary life forms (three items), precognition (four items), and spiritualism (four items) (e.g., *Some psychics can accurately predict the future)*. Participants respond on a seven-point Likert scale, from 1 (*Strongly disagree)* to 7 (*Strongly agree*) for each item. The Spiritualism subscale was used as an assessment of spiritual beliefs, which has previously been shown to have high internal consistency ($\alpha = .85$) (Lange et al., 2000).

Aspects of identity questionnaire IV (AIQ-IV; Cheek & Briggs, 2013)

The AIQ is a 45-item scale, consisting of four subscales assessing the self-identified importance of personal identity (10 items, e.g., *My personal goals and hopes for the future*), relational identity (10 items, e.g., *My relationships with the people I feel close to*), social identity (seven items, e.g., *My popularity with other people*) and collective identity (eight items, e.g., *My religion*). Participants are asked to rate the importance of each item to their sense of "who I am" on a five-point Likert scale from 1 (*Not important to my sense of who I am*) to 5 (*Extremely important to my sense of who I am*). Previous research has indicated satisfactory internal consistency ($\alpha > .73$ for all subscales) (Cheek & Briggs, 2013).

Data analysis

To assess associations between absorption (TAS), hallucination-proneness (LSHS-R) and spiritual beliefs (PBS-spiritual) within the general population group, simple correlations were computed, with the alpha level adjusted for multiple comparisons (alpha = .05/6 = .008). Spearmans r_s was used when data was non-normally distributed. A linear regression model was also constructed, with PBS-spiritual as dependent variable, including age, gender, TAS and LSHS-R subscales as predictor variables. The Spiritualist and general population groups were compared on TAS, LSHS-R, AIQ, and PBS scales using non-parametric (Mann–Whitney *U*) tests due to non-normally distributed data, and within the Spiritualist group, age of first clairaudient experience were compared to the age at which Spiritualism was encountered using Wilcoxon's rank test. Effect sizes for non-parametric tests are reported using rank biserial correlations.

Results

Associations between absorption, hallucination-proneness, and spiritual beliefs

Internal reliability within the general population group was satisfactory for all measures (PBS-spiritual: Cronbach's alpha = .85; LSHS-R-auditory alpha = .66; LSHS-R-visual alpha = .73; TAS alpha = .89; AIQ subscales, all $\alpha > .72$). To explore how absorption (TAS), hallucination-proneness (LSHS-R-auditory and LSHS-R-visual), and spiritual beliefs (PBS-spiritual) covaried in the general population ($n = 143$), correlation coefficients were computed (see Table 1) within the general population group only. There were significant correlations between the TAS and LSHS-R-auditory, LSHS-R-visual, and the PBS-spiritual (all ps < .001). There were small, non-significant correlations between PBS-spiritual and LSHS-R-auditory and visual subscales following correction for multiple comparisons (all ps > .01). To explore this data further, we constructed a multiple linear regression model, using PBS-spiritual as dependent variable, and TAS, LSHS-R-auditory, and LSHS-R-visual as predictors. Assumptions regarding collinearity were not broken (all VIF < 1.31, all tolerance values > .76), and inspection of Q–Q plots indicated normality of residuals. The Durbin-Watson test did not indicate autocorrelation ($d = 1.91$, $p = .548$), and inspection of the residuals plot did not indicate homoscedasticity. Age and gender were entered as covariates in the first block, with this model significantly predicting PBS-spirit ($F(3, 135) = 3.69$, $p = .014$). In the second block, TAS was added as a predictor, which significantly improved the model ($F(1, 134) = 19.88$, $p < .001$). In the third block, LSHS-R-auditory and LSHS-R-visual were added, which did not significantly improve the model ($F(6, 132) = 5.92$, $p = .248$). Full regression results are reported in Table 2. These analyses in the control sample indicate that spiritual beliefs are associated with absorption, but not with hallucination-proneness.

Correlations were also calculated between PBS-spiritual, TAS, and the LSHS-R subscales within the spiritualist group, using an alpha level of .008. A similar pattern was observed, with significant associations between PBS-spiritual and the TAS ($r_s = .352$, $p = .004$) and between TAS and both LSHS-R subscales (auditory: $r_s = .511$, $p < .001$; visual: $r_s = .639$, $p < .001$), but small and non-significant associations between LSHS-R subscales and PBS-spiritual (auditory: $r_s = .176$, $p = .160$; visual: $r_s = .313$, $p = .011$). However, it should be noted that there was limited variation in the PBS-spiritual subscale within the Spiritualist group, with 41.5% scoring the maximum possible score (which is perhaps not surprising, given that this group was selected specifically for this attribute).

RSEs in the spiritualist group: frequency, location, and onset

Within the spiritualist group, many participants reported clairaudient experiences happening on a daily basis (44.6%). Similarly, 33.8% of participants reported a clairaudient

Table 1. Correlations between Tellegen Absorption Scale (TAS), Launay-Slade Hallucination Scale (LSHS-R) auditory and visual subscales and Paranormal Belief Scale (PBS) spiritual beliefs subscale.

	TAS	LSHS-R auditory	LSHS-R visual	PBS spiritual
TAS	–			
LSHS-R auditory	.458*	–		
LSHS-R visual	.400*	.617*	–	
PBS spiritual	.336*	.171	.208	–

*$p < .008$ (.05/6).

Table 2. Summary of hierarchical linear regression, predicting spiritual beliefs (PBS spiritual subscale) in the general population group ($n = 138$).

Variable	*B*	SE	*β*	*p*
Model 1				
Intercept	10.73	4.71		
Age (yrs)	.01	.03	.01	.884
Gender	3.11	1.00	.57	.002
Education (yrs)	−.17	.26	−.06	.503
Model 2				
Intercept	7.54	4.47		
Age (yrs)	.01	.03	.04	.661
Gender	3.08	.94	.57	.001
Education (yrs)	−.24	.24	−.08	.328
TAS	.26	.06	.34	< .001
Model 3				
Intercept	5.24	5.11		
Age (yrs)	.02	.03	.06	.478
Gender	3.35	.95	.61	< .001
Education (yrs)	−.20	.24	−.07	.407
TAS	.23	.07	.31	<.001
LSHS-R-auditory	−.11	.27	−.04	.678
LSHS-R-visual	.44	.29	.15	.132

TAS = Tellegen Absorption Scale; LSHS-R = Launay-Slade Hallucination Scale.

experience happening within the last day. A large majority of participants reported having clairaudient experiences happening both during work as a medium/in a spiritualist church and outside of these contexts (79.0%), whereas 12.9% reported the experiences only ever happening outside of this context, and 8.1% reported them only ever happening in this context. Clairaudient experiences were mainly reported as occurring inside the head (65.1%), with 31.7% reported as experienced both inside and outside of the head, and 3.2% only ever outside the head. Descriptive statistics for prevalence of clairaudient, clairvoyant, and clairsentient experiences in the spiritualist group are reported in Table 3.

Participants in the spiritualist group were asked to approximate when their first clairaudient experience occurred. Ten participants in the spiritualist group did not provide

Table 3. Frequency and location of spiritual experiences. All numbers represent percentages of the spiritualist group that endorsed the option.

	Clairaudient	Clairvoyant	Clairsentient
Present?	100	96.9	98.4
Frequency			
Daily	44.6	43.8	54
Once a week	27.7	37.5	33.3
Once a month	13.8	12.5	9.5
Once a year	10.8	6.3	3.2
Less than once a year	3.1	0	0
Last experience within			
Last day	33.8	37.5	58.1
Last week	41.5	50	32.3
Last month	13.8	9.4	6.5
Last year	9.2	3.1	1.6
Longer than year	1.5	0	1.6
Location			
Inside head	65.1	87.1	–
Outside head, far away	3.2	1.6	–
Outside head, close by	31.7	11.3	–

estimates. A further 10 participants wrote that they had experienced clairaudience for as long as they could remember – for the purpose of this analysis, these participants were recoded as having onset at three years old. Mean age of first clairaudient experience was 21.7 (SD = 18.6); however, the variable appeared to be bimodal, with peaks in the distribution between 0 and 20 years, and a second peak at the age of 40 years. A number of questions were asked about cultural and social aspects of Spiritualism, inviting responses in a free-text box. This qualitative data is not reported in this paper, and will be reported elsewhere.

Absorption, hallucination-proneness, and spiritual beliefs in the spiritualist and general population groups

The Spiritualist group scored significantly higher than the control group on the TAS, LSHS-R-auditory, and on the PBS-spiritual subscale (see Table 4), with large effect sizes. After correction for multiple comparisons (alpha level = .05/4 = .0125), the spiritualist group did not score significantly higher than the control group on the LSHS-R-visual. The Spiritualist group also scored significantly higher on all other scales of the PBS (all *p*s < .001, all r_{rb} > .60, < .86), other than the superstition subscale, where there was no difference between the groups ($U = 4603$, $p = .969$, $r_{rb} = .003$). It should be noted that the Spiritualist group reported significantly fewer years of formal education (see Table 4). However, no questionnaire measures were significantly associated with education (all *r*s < .11); it therefore seems unlikely that group differences can be explained by this discrepancy.

We further explored that data by examining whether, in the Spiritualist group, reported frequency of clairaudient experiences was related to absorption and hallucination-proneness, we categorised participants into those who reported daily clairaudient experiences ($n = 29$) and those who reported clairaudient experiences once per week or less ($n = 36$). This was due to a low cell count for participants reporting clairaudient experiences once per month ($n = 9$), once per year ($n = 7$) or less ($n = 2$). Within the Spiritualist group, participants who reported clairaudient experiences on a daily basis scored significantly higher on the TAS ($M = 23.59$, SD = 5.22) than those who reported less frequent experiences ($M = 19.42$, SD = 6.64) ($U = 332$, $p = .012$, $r_{rb} = .36$). Participants who reported clairaudient experiences on a daily basis ($M = 11.69$, SD = 2.93) scored significantly higher on the LSHS-R-auditory than those reporting less frequent experiences ($M = 9.00$,

Table 4. Descriptive statistics (*M*, SD) for the TAS, LSHS-R, PBS, and AIQ for the spiritualist and general population groups, results from Mann–Whitney *U* tests, and effect sizes (r_{rb}, rank biserial correlation).

	Spiritualists ($n = 66$)	Gen. pop ($n = 143$)	Mann-Whitney *U*
Age (yrs)	53.8 (11.1)	49.9 (14.1)	$p = .06$, $r_{rb} = .16$
Gender (% M)	18.5	30.5	$p = .08$
Education (yrs)	14.8 (2.15)	15.8 (1.86)	$p < .001$, $r_{rb} = .33$
TAS	21.28 (6.36)	14.22 (7.21)	$p < .001$, $r_{rb} = .54$
LSHS-R auditory	10.20 (3.05)	7.36 (2.05)	$p < .001$, $r_{rb} = .57$
LSHS-R visual	6.37 (2.32)	5.63 (1.90)	$p = .016$, $r_{rb} = .20$
PBS spiritual	25.91 (2.59)	8.71 (5.39)	$p < .001$, $r_{rb} = .99$
AIQ social	21.02 (5.67)	21.24 (4.64)	$p = .608$, $r_{rb} = .34$
AIQ relational	40.29 (7.78)	39.36 (8.03)	$p = .391$, $r_{rb} = .07$
AIQ collective	21.31 (6.87)	20.66 (5.60)	$p = .814$, $r_{rb} = .02$
AIQ personal	40.63 (5.51)	37.31 (5.59)	$p < .001$, $r_{rb} = .04$

TAS = Tellegen Absorption Scale; LSHS-R = Launay-Slade Hallucination Scale; AIQ = Aspects of Identity Scale.

SD = 2.61) ($U = 256$, $p < .001$, $r_{rb} = .51$). They also scored higher on the LSHS-R-visual ($M = 7.24$, SD = 2.54, compared to $M = 5.67$, SD = 1.87), ($U = 314$, $p = .005$, $r_{rb} = .40$). There was no difference between participants with daily experiences ($M = 26.06$, SD = 2.48) and those with less frequent experiences ($M = 25.72$, SD = 2.75) on the PBS-spiritual subscale ($U = 509$, $p = .858$, $r_{rb} = .03$). This analysis was repeated for visual experiences, instead categorising participants into those who reported daily clairvoyant experiences ($n = 28$) and those who reported clairvoyant experiences only once per week or less ($n = 36$). The same pattern of results was observed, with participants reporting more frequent experiences scoring higher on the TAS, LSHS-R, but not the PBS-spiritual subscale (all ps < .018). This is perhaps not surprising since frequency of clairaudient and clairvoyant experiences were strongly associated ($\chi^2(1) = 22.2$, $p < .001$), with 75.9% of participants who reported daily clairaudient experiences also reporting daily clairvoyant experiences.

First clairaudient experience vs. first encounter with Spiritualism

Participants in the Spiritualist group were asked to estimate the age in years at which they first had a clairaudient experience, as well as their age in years when they first encountered Spiritualism. Of the 58 participants who provided an estimate for both questions, 25.9% reported their first clairaudient experience occurring at the same age as encountering Spiritualism, 44.8% reported experiencing clairaudience before encountering Spiritualism, and 29.3% reported encountering Spiritualism first. Mean age of first clairaudient experience was 21.7 (SD = 18.6), although the range of responses was large (minimum = 2 yrs, maximum = 60 yrs). This was significantly lower than the mean age at which Spiritualism was encountered ($M = 26.8$, SD = 17.5) ($W = 275$, $p = .045$, $r_{rb} = .36$). Age of first clairaudient experience was associated with score on the TAS ($r_s = -.278$, $p = .033$), LSHS-R-auditory ($r_s = -.300$, $p = .021$), the LSHS-R-visual ($r_s = -.395$, $p = .002$), though only the latter was significant following corrections for multiple comparisons (.05/3 = .017). Alternatively, we calculated the length of time since onset (subtracting age of onset from current age); no significant correlations were observed following correction for multiple comparisons (all $r_s < .26$).

Participants also provided free-text responses regarding how they had first encountered Spiritualism, with the most common reports being via friends (29%), relatives (29%), books (18%), or the TV or internet (10%). Fifty-seven percent of participants also reported having spiritual experiences before an experience deemed as clairaudient, typically describing visual or multimodal experiences (e.g., seeing orbs or shadows, or having hypnagogic hallucinations).

Aspects of identity in spiritualists

The two groups were also compared on all four subscales of the AIQ, with the hypothesis that the Spiritualist group would score higher than the control group on the relational identity subscale. Contrary to our prediction, there was no difference between the Spiritualist group and the control group on the relational subscale (see Table 4). Likewise, there was no difference between the groups on the collective or social identity subscales, though the Spiritualist group did score significantly higher on the personal identity subscale (see Table 4). Using the categorisation from section 3.3, there was no difference between participants reporting daily clairaudient experiences ($M = 41.7$, SD = 3.94) and

those reporting less frequent experiences ($M = 39.8$, $SD = 6.44$) in the AIQ personal subscale; that is, while participants in the Spiritualist group scored higher on this subscale, it was not associated with more frequent clairaudient experiences.

Discussion

Our findings confirmed that, in the general population group, spiritual beliefs were associated with absorption, although the association with hallucination-proneness was weak and not statistically significant. Consistent with this conclusion, in a regression model, absorption was associated with spiritual beliefs, but hallucination-proneness was not. The Spiritualist group also scored higher on absorption and auditory hallucination-proneness than the general population group, and interestingly, those with more frequent clairaudient or clairvoyant experiences scored higher on measures of absorption and hallucination-proneness (but not spiritual beliefs). Spiritualists, however, did not score higher on the visual subscale of the LSHS-R compared to the general population group (a result that likely reflects our recruitment method, which was aimed at recruiting individuals who reported clairaudient experiences).

There is, then, a discrepancy between findings within the general population group (in which only absorption was associated with spiritual beliefs) and findings comparing the Spiritualist and general population group (with the Spiritualist group scoring higher than the general population on both absorption and hallucination-proneness, both of which were also associated with more frequent clairaudient experiences). This suggests that the Spiritualist group were not simply individuals with high levels of spiritual belief and associated absorptive traits, but also that they were more prone to other, non-spiritual hallucination-like experiences.

Our results suggest, then, that absorption may link with spiritual beliefs in some significant way whilst also proving less useful than scales like the LSHS-R for predicting frequency of clairaudient RSEs. Likewise, the PBS (spiritual belief subscale) also appears to be a poor measure of clairaudient experiences, as Spiritualists with varying frequency of clairaudient experiences did not differ in levels of spiritual belief. In fact, the stable measure of spiritual beliefs for the Spiritualists regardless of how often they experience the paranormal, in combination with the finding that many Spiritualists report unusual sensory experiences before encountering Spiritualism itself, may indicate that only a very few anomalous experiences are needed to prompt a meaning-making process which eventually leads to the embrace of Spiritualist tenets.

In addition to these general findings, our study offers several important contributions to the specific question of absorption's utility for researching RSEs as well as to theoretical discussions regarding the interface between beliefs, socio-cultural context, and occurrences of RSEs. In particular, our use of a general population group was a crucial point of comparison. Rather than using thematic analysis or other qualitative approaches to conduct solely within-group comparisons of vividness of experience and absorption, we chose to analyse how absorption related to belief and hallucination-proneness between groups – with frequency of clairaudience then serving as an easily quantifiable independent variable within the Spiritualist group.

If, as Luhrmann et al. (2010) has suggested, the TAS captures one's "proclivity" for vivid hallucination-like experiences, and if there is evidence of phenomenological overlap

between clairaudience and auditory verbal hallucinations, then we would expect a positive correlation between frequency of clairaudience and absorption. Our results do, in fact, show a strong correlation between frequency and absorption (we also had two-thirds of our Spiritualist participants reporting voices "inside of the head", a strikingly similar result to that reported by Luhrmann et al. (2010)). However, introducing PBS and LSHS-R scores complicated the picture.

Indeed, our study clearly highlights the difficulty in parsing the entanglement of beliefs, RSEs, and absorption. If, for the sake of argument, the TAS is a measure of one's belief in the *plausibility* of specific experiences, rather than a proneness to having those experiences, this could help explain the strong links we found between the LSHS-R (measuring subjective experience) and frequency of clairaudience among the mediums, as well as between the PBS and the TAS among the general population. Of course, Luhrmann et al. (2013) have convincingly illustrated that beliefs and expectations increase the likelihood of religious experiences, just as other studies have exposed the power of priors in the occurrence of auditory hallucinations (Corlett et al., 2019). That being said, our results corroborate Cardeña et al. (2015) who found that Spiritualists often developed an interest in the paranormal only after having had, and as a means of comprehending, an anomalous experience. Nearly half of our participants first encountered Spiritualism as a movement after having already had a clairaudient experience. Furthermore, 57% of participants reported an earlier "spiritual" experience occurring prior to their first "clairaudient" experience. This strongly supports the attributional model of RSEs in which confounding or anomalous sensory experiences come to be labelled spiritual retroactively (Taves, 2009).

Regarding the role of identity for those reporting RSEs, however, we did not support our hypothesis. A medium's social network was unquestionably important – participants listed "family" and "friends" more frequently than other options ("books", "videos", and "internet") when asked how they first heard about Spiritualism (see also, Roxburgh & Roe, 2014) – but the extent to which they valued the perspectives of others when shaping their own sense of self was no different than the general population. In fact, we likely underestimated the strong individualist bend inherent to Spiritualism. In contrast to evangelical Christian communities, for example, Spiritualism falls more squarely within the category of personal spirituality now often seen as a by-product of secularisation in the west. With this strong sense of individualism, our participants actually scored more highly than the general population on personal identity. There is little evidence, then, that their RSEs helped resolve any tension between their own desires/expectations and the desires/expectations of important members of their social network. Again, we produced more evidence that participants had anomalous experiences and, subsequently, deemed them spiritually significant rather than having emotional or religious motivations that facilitated or induced RSEs.

With such unexpected findings, more research is needed to elucidate the relationship between belief, RSEs, and absorption. In particular, future work should seek to determine whether, in studies like ours, absorption is capturing a predisposition to having RSEs or a belief in the plausibility of having RSEs. This will require cross-cultural comparison. Before that is possible, more studies into absorption must compare to non-spiritual/non-voice-hearing groups to judge regions/cultures with potential affinities for the concepts and philosophies of mind implicated in the TAS against individual spiritual/religious communities or belief-systems supposedly predisposed to a set of experiences.

Limitations

Firstly, as Lifshitz et al. (2019) note, studies of absorption relying on self-report may show associations between traits simply because participants are making little distinction between items on the TAS and similarly worded items on other scales. In the present study, for example, it is possible that participants answering affirmatively on the TAS item "I often know what someone is going to say before he or she says it" also affirm PBS items such as "Some psychics can accurately predict the future". In combination with common method variance, it therefore may not be surprising that absorption and spiritual beliefs were positively correlated, and it could be argued that the two constructs are not entirely separable. That said, the finding that the Spiritualist group scored particularly highly on these measures, and that absorption and hallucination-proneness (assessed by a questionnaire that deliberately does not mention religious or spiritual themes), but not spiritual beliefs, were associated with frequency of clairaudient experiences, implies that these traits may predispose towards anomalous experiences.

Secondly, although we found considerable evidence in favour of an attribution model of RSEs, our questionnaire focused almost exclusively on the experience of clairaudience and asked few questions about external influences affecting the individual's appraisal of their experiences. Future studies should further probe the general spiritual life-course and social contexts of participants to determine the nature, extent, and timing of all spiritual/religious influences in each participant's history.

Ultimately, the present study showed that absorption was higher in Spiritualists reporting clairaudience, and was further associated with frequency of clairaudient experience, supporting the claim that absorption is strongly associated with RSEs. What is more, the fact that there was a close link between paranormal beliefs and absorption in the general population group highlights the complexity of the interaction between these variables. For many who report anomalous experiences, belief in the spiritual or paranormal may result from a years-long search for personal meaning. For others, those beliefs may almost seem to co-occur with the experiences. Yet, as the findings from the general population group underscores, spiritual beliefs can be associated with absorption without reports of regular hallucinations or spiritual RSEs. Future research should aim to further untangle the roles of beliefs, expectations, and prior experience in RSEs.

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